



Decommissioning News.

A newsletter to inform the public about NASA's Decommissioning Activities.

Twenty-Second Edition. June 2007.

Decommissioning Update. Spring Cleaning Provides a Look Ahead.

It's been a productive spring for the Decommissioning Project; and while its completion must still be measured in years, the path ahead is clear. Much of the recent project work reflects both accomplishments in the present and developing realistic plans for the future. NASA reached an important project milestone in April, when workers from subcontractor MOTA Corp. completed the decontamination of concrete in the Hot Cells, seven rooms where the results of experiments had been analyzed when the reactor was operational.

"This is one of the project's signature accomplishments, said Decommissioning Program Manager Keith Peecook. "Over the past two years, we examined a number of approaches for decontaminating these rooms, then used the best approach to meet our Final Status Survey levels," which he described as a test that will demonstrate to the U.S. Nuclear Regulatory Commission (NRC) that NASA has met its project cleanup goals.

According to Scott Gluth, Deputy Project Manager for MOTA, a key to completing the Hot Cell decontamination was "marrying state-of-the-art decommissioning technology with MOTA's seasoned, experienced decommissioning technicians." Workers decontaminated the cells' walls and floors using a device called a sponge blaster (similar to a sandblaster, with small pieces of sponge to which abrasive material was attached) for scraping concrete, a quarter inch at a time, vacuuming the dust, then surveying the underlying concrete to ensure it meets project cleanup levels. Work then progressed to cleaning concrete from several slabs that once comprised the roof of the cells - as well as the former divider walls between the cells - having moved them to a former canal area of the Containment Vessel. Workers then cleaned the slab concrete to what are termed "free-release" levels, meaning they have "no detectable level" of radiation and can therefore be recycled. NASA anticipates free-releasing about 500,000 pounds of concrete, and 100,000 pounds of steel from this work, bringing the project total to date to more than 1.5 million pounds of material that did not have to be sent to a licensed disposal facility.

Peecook termed recent work "a major piece of spring cleaning," and said that in recent months, NASA has been working toward issuing a Request for Proposals for what is called the Decontamination and Waste Disposal Contract. This contract's scope will cover the major steps leading to completion of all remaining tasks to prepare the site for the Final Status Survey (FSS). These include completing all decontamination work; excavating and assaying (surveying for radiation) an estimated 50 million pounds of soil; shipping for disposal the existing on-site waste, any contaminated soil, and the waste generated by remaining decontamination work; removing the bioshield (a concrete and steel structure that once provided an extra layer of Containment Vessel protection) and physically preparing all building surfaces for the FSS.

Contractors got a look at the upcoming work during an "Industry Day" at the nuclear industry's Waste Management Conference - held in Tucson, AZ in February. NASA invited potential bidders to a presentation on the remaining work to be conducted, supplying them with a wide variety of data presented by Decommissioning Team members. A total of 39 companies requested information and 33 attended an open information session; 15 others attended one-on-one sessions. Peecook said "We received good feedback" from potential contractors. NASA expects to have a Draft Request for Proposals (RFP) ready this month, with the final RFP released in August. The contract could be awarded this fall, with Peecook noting, "I think there is potential for collaboration among contractors and for economies and new approaches" to completing major project tasks. Work could begin by early 2008.

NASA Close to Final Status Survey Plan Approval.

NASA Decommissioning Program Manager Keith Peecook said recently that the U.S. Nuclear Regulatory Commission (NRC) has "basically approved" NASA's Final Status Survey (FSS) Plan, pending a review by NRC legal staff. The NRC has been reviewing NASA's Plan since early this year. Once the legal review is complete, the NRC will publish a 30-day public notice in the Federal Register. NASA submitted an FSS Plan to the NRC in January 2005 and a revised Plan in May 2006. The FSS Plan sets forth how NASA will meet the Decommissioning Project's cleanup goals at the end of decommissioning, which will then enable NASA to terminate its Reactor Facility license with the NRC.

Decommissioning Update article photos.

- In the photo in the top right corner, shows the Hot Cell Gallery from 2005 before fixed equipment removal and decontamination work took place.
- In the photo in the middle right corner, the concrete roof slabs covering Hot Cells 3-7, with a vacuum hose atop these cells, this spring.
- In the photo in the bottom right corner, Hot Cells 3-7 are shown with the roof slabs and divider walls removed.



NASA Progressing in Off-site Sampling Efforts.

The results of off-site sampling conducted through four seasons, several bodies of water, and adjacent land and marshes, continues to show only occasional off-site levels of cesium. Between September 2006 and this May, sampling done for NASA by Sandusky hydrogeological consultants, Haag Environmental Company (HaagEnviro), found one isolated sample of 50 picocuries per gram and just four other samples above 12 picocuries, which is NASA's proposed cleanup level for the Decommissioning Project.

HaagEnviro took well over 100 samples, and completed sampling efforts in groundwater wells near the Reactor Facility, East Sandusky Bay, the wetland area where the Plum Brook stream mouth enters Sandusky Bay, ponds near the Plum Brook Country Club, and a floodplain wetland (a marshy area that runs from the Country Club's golf course to State Route 6). This sampling began last September and was completed in May.

According to Decommissioning Program Manager Keith Peecook, Haag's additional sampling program (complementing a NASA effort that included more than 1,200 samples taken near Plum Brook last year), confirms that "In carefully examining how water and sediment move, we have demonstrated that the results do not pose a public health concern." As part of NASA's public outreach efforts, hydrogeologist Bob Haag met with the Sandusky City Commission in January, sharing results and assuring local residents that the water in Sandusky Bay was safe for drinking and all other purposes, and noting then that levels were "even less than we anticipated."

Haag said part of his efforts focused on finding what was termed a "delta" area, the farthest point downstream from Plum Brook, where sediment - containing traces of cesium (from reactor operations in the 1960's) - would have moved over time. The delta, Haag explained, "Would be formed where the running water of the stream would have met standing water." He expected the standing water to be in Sandusky Bay; but instead, he found it in a marshy floodplain area south of Perkins Avenue, and in a marshy stream mouth area just north of State Route 6. Peecook described this as an isolated area containing "fifty yards of cat-tails, a foot of water and several inches of mud." He added that while NASA will comply with any cleanup actions mandated by the U.S. Nuclear Regulatory Commission (NRC) and the Ohio Department of Health (ODH), it may be more "ecologically friendly" to leave the few isolated sample spots untouched.

Haag said sampling involved new tools and techniques - including a device known as a Vibracore, a gasoline-powered aluminum "corer," three inches in diameter and ten feet long, which vibrates down into sediment and has resulted in "improved sample recovery and volume." He added that in the areas where the highest levels were found, HaagEnviro was taking "bounded samples," a series of additional samples in an area six feet around the few higher-level samples. Haag also said his company was making increased use of NASA's on-site Reactor Facility laboratory to analyze results more quickly.

NASA has been working on a series of seven reports for the NRC, detailing the sampling effort and results. Haag said each report covers a different area where "sediment is left behind in a specific pattern." He added that all the reports show how the cesium was transported over time and provide an approximate accounting of all cesium known to have been released (during normal Reactor Facility operations in the 1960's). Haag will present sampling results at the Community Workgroup meeting, on Tuesday June 19, from 7 p.m. to 9 p.m., at the Huron Public Library, (333 Williams Street). The meeting is open to the public. ■

NASA Progressing in Off-site Sampling Efforts article photos.

- In the photo in the upper right During the winter, workers from HaagEnviro used the Vibracore to take a sample through ice and marsh in a floodplain wetland area near State Route 6.
- In the photo to the lower right, A worker takes a Vibracore sample near Putnam Marsh with help from an Erie MetroParks canoe.



Other ways to receive Decommissioning Information.

Decommissioning Website.

For project updates, fact sheets, newsletters, and to ask questions, visit us at www.grc.nasa.gov/WWW/pbrf

24-Hour Toll-Free Information Line.

For recorded project updates and to ask questions, call 1-800-260-3838.

Community Information Bank.

To review documents, visit the Decommissioning Project information repository at the [BGSU Firelands Library](#).

Speakers.

To arrange for a NASA representative to make presentations to civic, community and school organizations, contact [Sally Harrington](#), NASA Public Affairs Specialist, 216-433-2037, or email: s.harrington@grc.nasa.gov or call 1-800-260-3838.

NASA to Conduct New Testing at Plum Brook Station.

While one Plum Brook Station facility is being decommissioned, another is an important part of NASA's future. NASA Glenn will be conducting integrated environmental testing of the Orion crew exploration vehicle in the Space Power Facility at Plum Brook Station (PBS). The Orion will be the replacement for the Space Shuttle, with NASA anticipating the first test flight in 2015.

The environmental tests are designed to demonstrate the ability of Orion hardware to meet specified performance requirements in simulated environmental conditions such as those experienced during launch, in-orbit operations and re-entry. Thermal, acoustic and mechanical vibration and electromagnetic compatibility testing will be conducted on Orion's full assembly. The launch abort system, crew module, service module and spacecraft adapter will also be tested.

Testing will be performed in support of NASA's Constellation Program - which is developing spacecraft and other systems to support NASA's exploration mission to the moon, Mars and other destinations in the solar system - and its Orion Project Office. Both are located at NASA's Johnson Space Center in, Houston. Glenn is leading development of the Orion service module for the Orion Project Office.

The work at PBS is valued at approximately \$63 million and will take place from 2007



to 2011. During this period, the Space Power Facility (SPF) will be augmented with a number of capabilities, including a new acoustic chamber and a mechanical vibration test stand. Specialized equipment that will enable electromagnetic test capabilities also will be added to the thermal vacuum chamber.

"We are pleased to play this essential role in the agency's quest to develop the next generation of space vehicles," said Glenn Director Dr. Woodrow Whitlow, Jr. "The Space Power Facility is the world's largest thermal vacuum chamber. The modifications will enhance this world-class facility and allow us to make significant contributions to the development of future space systems."

The SPF is 100 feet in diameter and 122 feet tall. It can simulate in-space conditions such as low vacuum environments and temperature extremes. The facility's wide-ranging capabilities have been used extensively to test rocket payload fairings; orbital hardware, including International Space Station systems; and planetary landing and surface systems such as the Mars Exploration Rover landing systems. ■

COMMUNITY WORKGROUP MEMBER PROFILE.

Danette Johnson.

Some people travel the world. Others have gained a world of knowledge. Danette Kissel Johnson, Ph.D., has done both. Director of the Office for Educational Outreach at BGSU Firelands, she estimates "moving around the world 25 times." She has lived in Europe (Italy) and Asia (Japan), and earned degrees from Barton College (North Carolina), Washington State, George Washington and Liberty Universities and a Doctorate in Educational Leadership from a Virginia consortium that included Liberty, Virginia and Virginia Tech Universities.

Ask Johnson about her travels and she'll muse, "I married young," to Jack Johnson, a Master Gunnery Sergeant (the highest rank of non-commissioned officer) in the U.S. Marines. They have two daughters - Kylee and Briana - and a son, Nicholas. A native of Tiffin, she returned to Ohio in 2004 to take the Firelands position. (Jack is currently serving his third tour of duty in Iraq). She previously held administrative positions at Cramer Community College (North Carolina) and the University of Naples (Italy).

As Educational Outreach Director, Johnson makes learning a life-long experience, bringing together businesses and educators at the College's Cedar Point Center. She has been "saddened" by the decline of manufacturing and other segments of Ohio's economy, and feels "a personal crusade to do training and retooling of employees...to help them better prepare for promotional and other opportunities," especially workers switching industries. At Firelands, she has worked with more than 50 Ohio companies and also runs its Elder College, a program of classes for people age 50 and older (costing just \$2 each), covering a wide range of subjects.

Johnson became involved with NASA through Firelands, as she hosted a seminar on Mars Exploration in October 2005 (in cooperation with the Smithsonian Air and Space Museum), and the annual Decommissioning Community Information Session that same month. She subsequently helped with logistics for a public meeting on the project in January 2006, hosted by NASA and Congresswoman Marcy Kaptur (D-OH). Johnson views NASA as "part of our community family" and.

NASA to Conduct New Testing at Plum Brook Station article photo.

■ In the photo in the upper right corner, The Space Power Facility at Plum Brook Station has both a great history and bright future, with the upcoming Orion testing work.

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DECOMMISSIONING UPDATE (CONTINUED FROM PAGE 1).

Another task essential to completing the Decommissioning involves cleaning up Pentolite Ditch, which is on-site at the Reactor Facility and was the designated pathway for permitted water discharges when the reactor was operational. Water from reactor operations was once discharged after going through an intensive system of monitoring, to ensure that radiation in the water had decayed to well below permitted levels. NASA performed some cleanup on the banks of the ditch two years ago and project personnel analyzed data from surface soil samples taken down the length of the ditch. They recently took additional samples at substantial depths, in order to better plan on the amount of soil that will need to be removed. NASA used a Geoprobe, a drilling device that can dig deep into soil, shale and even bedrock, to take these new samples. The initial results showed on-site contamination levels to a depth of six feet at the outfall of the reactor, but at only six to twelve inches down the main stretch of Pentolite Ditch.

Cabrera Services, a Massachusetts subcontractor specializing in radiological cleanup, is expected to begin work on Pentolite Ditch early this summer, with completion anticipated this fall. Peacock described this cleanup as “a very important step in our process,” because Pentolite Ditch runs into Plum Brook and “we want to ensure that Plum Brook is protected.” The Pentolite Ditch cleanup, and work conducted under the Decontamination and Waste Disposal Contract, will mark the last major steps leading to a safe and successful decommissioning. “We can now see the end of the road for this project,” Peacock observed. “Even if it will still take us a while to get there.” ■



Decommissioning Update continued article photos.

- In the photo in the upper right corner, Workers employed a Marcrift floor shaver to scrape concrete from the Hot Cell floors this spring.
- In the photo in the lower right corner, A MOTA worker cleans a concrete surface in the Hot Cells, using a sponge blaster tool.

WORKGROUP PROFILE (CONTINUED FROM PAGE 3).

while she's never visited Plum Brook Station, she was aware of its Reactor Facility. An uncle, Steven Longanbach, has long been a nuclear industry consultant and she recalls him discussing reactors when she was a child. She also knew Workgroup member John Blakeman and NASA hydrogeological consultant Ruth Haag; both have taught at the Elder College.

The newest Workgroup member, Johnson was “flattered and excited to join such a prestigious group of knowledgeable people” in March 2006. At first, she felt “a little overwhelmed by what’s involved in the project,” but now feels comfortable. While only occasionally getting questions about the project, she says many people had “positive comments” about the NASA/Kaptur public meeting. She believes the Decommissioning Project is “in capable, caring hands, with outstanding public interaction,” and views the project as “worthy of the public’s attention.” And ever the educator, Johnson hopes to host an Elder College seminar on decommissioning this fall. ■

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Decommissioning Project.
See Our Next Edition in October.**